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(56) Documents Cited

GB 2247545 A EP 0834792 A2 US 5793606 A
US 5751544 A US 5729429 A

(58) Field of Search

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(54) Abstract Title

Laptop computer with removable screen

(57) A novel lap top computer has a lid 5 which is demountable from the base 3 so that the computer can be used with the lid hinged to or disconnected from the base. The lid and base are connected via a releasable securing means 7A,7B,8 and a cable or other data transmitting means 10. A stand 9 is provided to allow the lid to be supported in variable positions in relation to the screen.

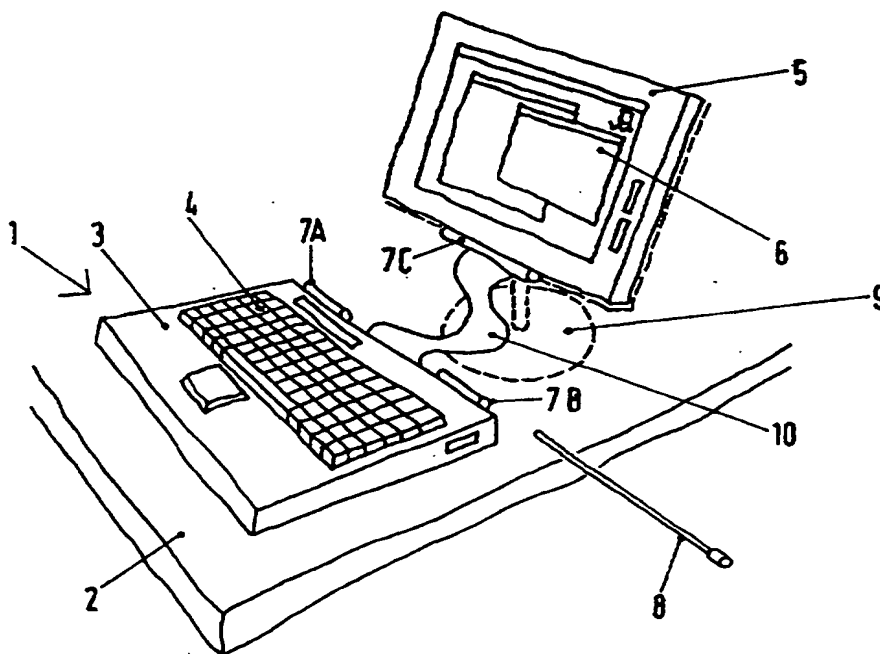


FIGURE 2

The claims were filed later than the filing date but within the period prescribed by Rule 25(1) of the Patents Rules 1995.

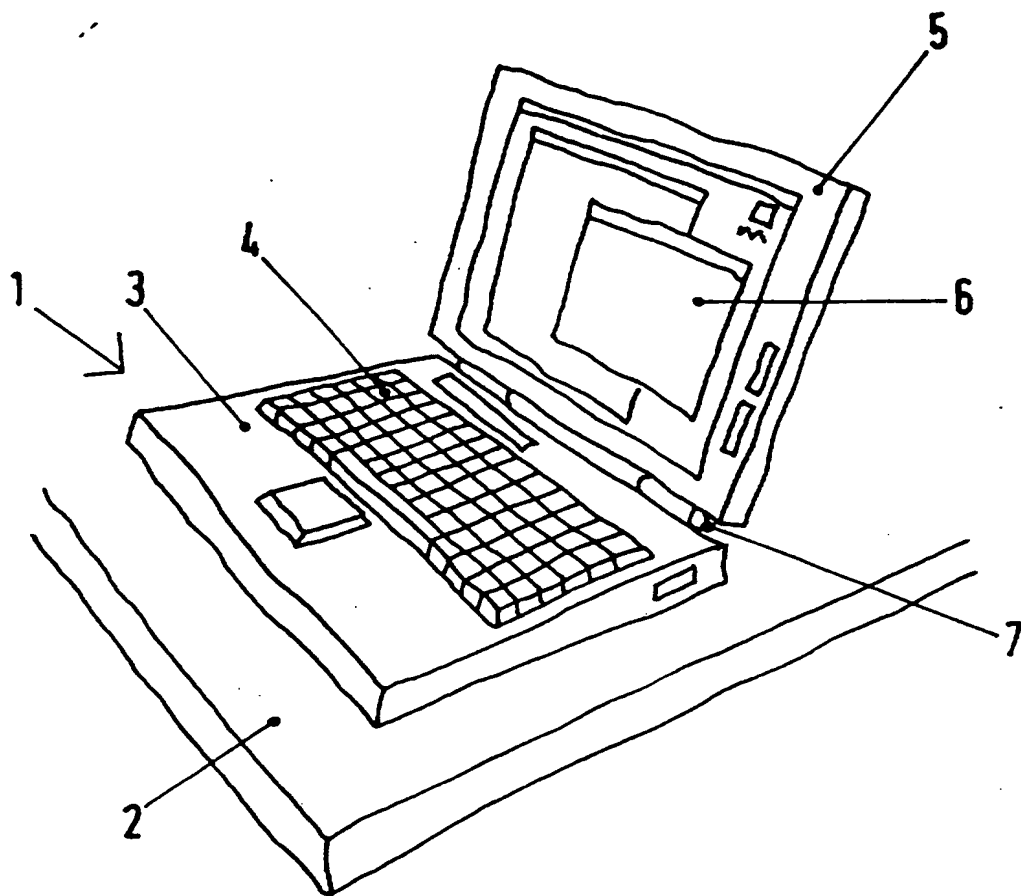


FIGURE 1

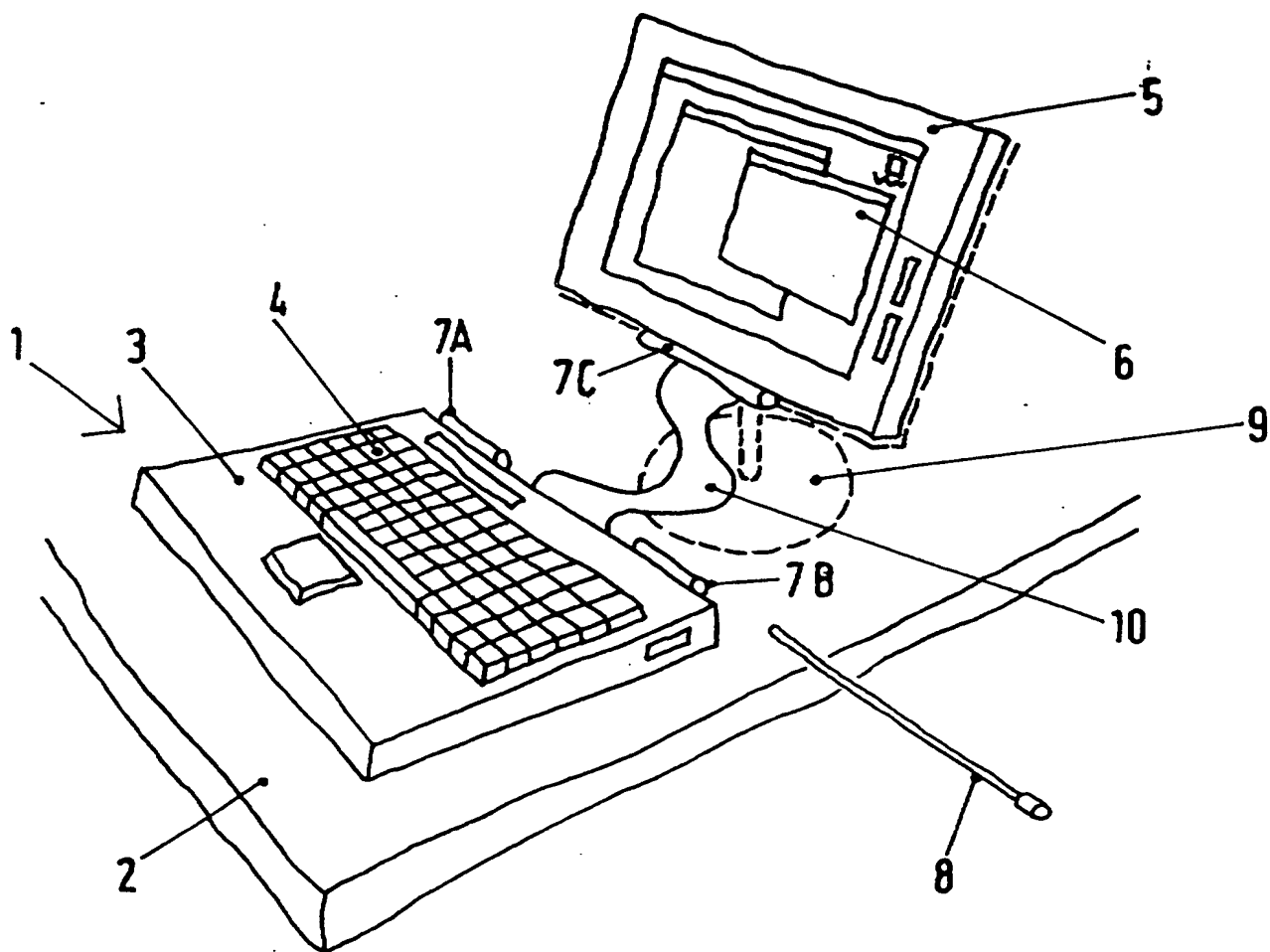


FIGURE 2

FIGURE 3

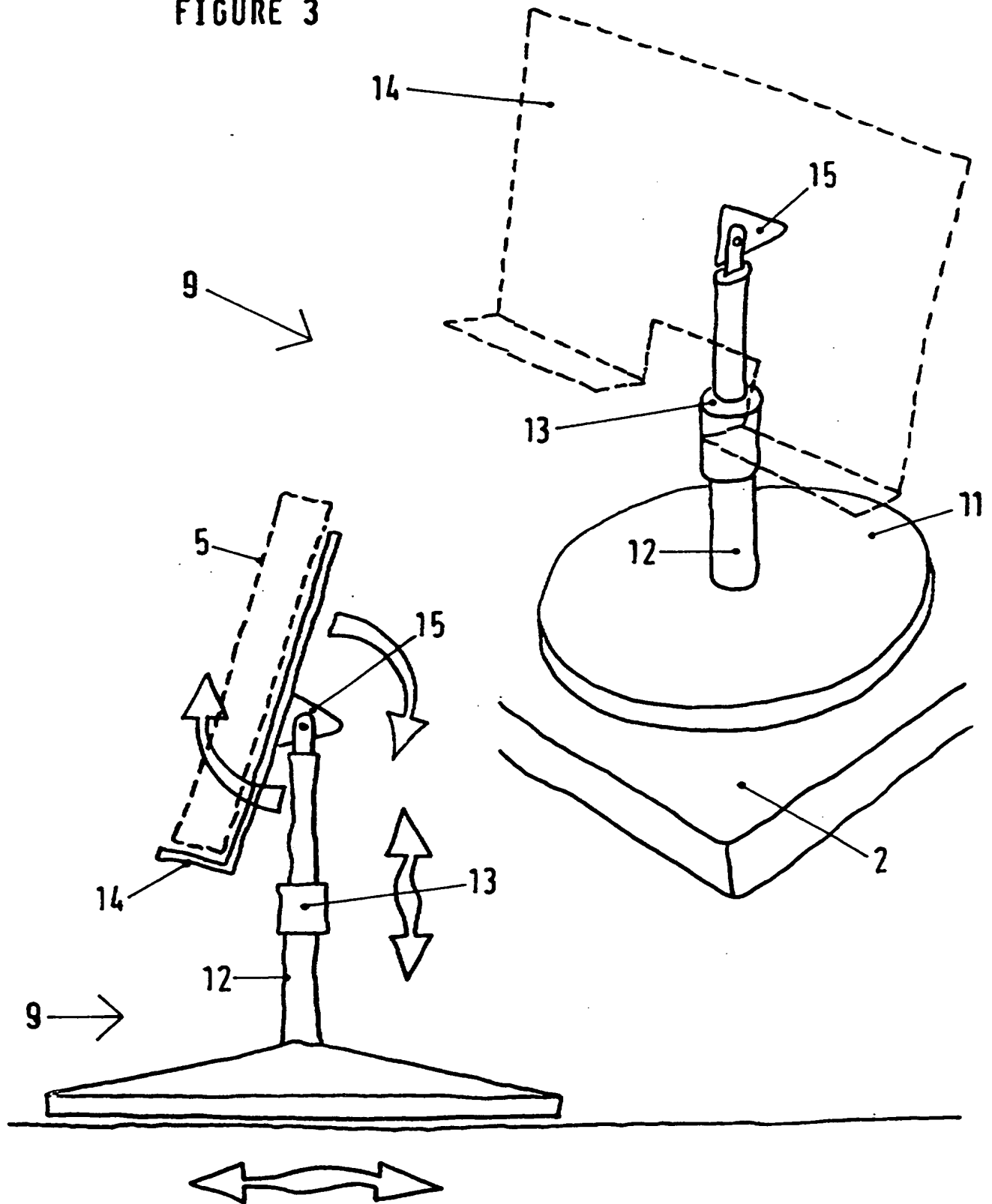


FIGURE 4

The present invention relates to a novel lap top computer.

Normal computer workstations comprise, inter alia, a computer, a screen and a keyboard. The spatial relationship between the keyboard and the screen can be adjusted so the operator is in the desired posture for working at the workstation for extended periods of time. So called "lap top" computers normally have a keyboard on a base and a flat screen formed in a lid hinged to the base. When not in use the lid folds over the base forming a portable case. A problem with lap top computers is that the spatial relationship between the screen and the keyboard is not adjustable, and prolonged use of such lap tops can be uncomfortable or even detrimental to health.

The invention seeks to provide a lap top which solves this difficulty.

According to the present invention there is provided a lap top computer comprising:

- a) a base supporting a keyboard
- b) a lid for the base supporting a screen, and
- c) releasable securing means to connect the lid on the base when not in use.

Preferably the releasable securing means is a demountable hinge allowing use of the lap top with the lid hinged to or disconnected from the base.

Preferably the lid is connected to the screen by a cable to enable the screen to be located remote from the keyboard.

Preferably the lap top further comprises a stand to support the lid above a surface. The stand may be connected to the lid or separate. Preferably the stand allows the lid to be supported in variable positions above the surface. Preferably the stand allows position adjustment of the lid in terms of height and horizontal pitch. The invention also extends to the stand per se for supporting a lap top screen lid.

An embodiment of the invention will now be described with reference to the accompanying drawings in which:

Figure 1 shows a perspective view of a lap top in use with the lid connected to the base,

Figure 2 shows a perspective view of a lap top in use with the lid disconnected from the base on a stand,

Figure 3 shows a perspective view of the stand in Figure 2, and

Figure 4 shows a side view of Figure 3.

Referring to Figure 1 there is shown a lap top computer 1 on a desk 2. Computer 1 has a base 3 with a keyboard 4 and a computer inside (not shown), and a lid 5 with a screen 6. The lid is connected to the base by releasable securing means in the form of a demountable hinge 7. The

lap top can be used with the lid connected to the base like known lap top computers, and the lid can close over the base to enclose the keyboard, computer and screen in a casing to make the lap top portable.

Referring now to Figure 2, it will be seen that demountable hinge 7 comprises a pair of tubular base members 7A, 7B and a tubular lid member 7C which can be secured together to rotate on a common axis by a removable shaft 8. With the shaft 8 removed, the lid 5 can be disconnected from the base 3 and placed on a stand 9. The screen 6 on the lid 5 receives its power and signals through a ribbon cable 10 of sufficient length to enable the screen to be located remote from the keyboard.

Referring to Figures 3 and 4, the stand 9 comprises a base 11, a telescopic vertical support shaft 12 adjustable in length by means of a rotatable locking collar 13, and a screen support frame 14 to support lid 5 connected to the shaft by a friction hinge 15. The telescopic shaft 12 allows the height of the stand (and hence the screen) to be adjusted, and the hinge 15 allows the horizontal pitch to be varied. Thus the spatial relationship between the screen and the keyboard can be adjusted.

The invention could take a different form to that specifically described above. Instead of the stand being separate to the computer, it could be permanently connected to the lid. Also instead one fixed cable 10, cable of different sizes could be provided depending on whether the lid is connected to the base or not, or information could be transmitted to the screen. The releasable securing means could take a different form than a hinge, or, for example, the shaft 8 could be replaced by spring loaded balls at either end of tubular lid member 7C to releasably engage with the tubular lid members 7A, 7B.

Further modifications will be apparent to those skilled in the art without departing from the scope of the present invention.

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Claims

- 1 A novel lap top computer comprising:
 - a) a base supporting a keyboard
 - b) a lid for supporting a screen and
 - c) releasable securing means to connect the lid on the base.
- 2 A novel lap top computer as in claim 1 wherein the releasable securing means allows the use of the lap top computer with the lid connected to or disconnected from the base.
- 3 A novel lap top computer as in claim 1 and 2 wherein the lid is connected to the screen by a cable or data transmitting device which enables the screen to be located remote from the keyboard.
- 4 A novel lap top computer as in claim 1, 2, 3 wherein a support stand, either connected to or separated from the lid or base enables the lid to be supported in variable positions in relation to the base.
- 5 A novel lap top computer substantially as described herein with reference to figures 1, 2, 3, 4 of the accompanying drawings.



INVESTOR IN PEOPLE

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Claims searched: 1 to 5

Examiner: Tony Reeve
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Patents Act 1977 Search Report under Section 17

Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK Cl (Ed.R): G4A ADT

Int Cl (Ed.7): G06F 1/16

Other: Online: EPODOC; WPI; PAJ

Documents considered to be relevant:

Category	Identity of document and relevant passage	Relevant to claims
X	GB 2247545 A (Chin-Mao Chen) - see fig.7	1,2,3
X	EP 0834792 A2 (Hewlett-Packard) - see fig.1	1,2,3,4
X	US 5793606 (Cubbage et al.) - see fig.98	1,2,3,4
X	US 5751544 (Song) - see fig.2	1,2,3
X	US 5729429 (Margaritis et al.) - see figs.4 and 6	1,2,3,4

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.